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Clinical significance of the overexpression of the candidate onco CYP24 in esophageal cancer.

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BACKGROUND: By using array comparative genomic hybridization (CGH increased copy number of CYP24 (which encodes vitamin D 24-hydroxylase 20q13.2 was previously reported, leading to the identification of CYP24 as a candidate oncogene in breast cancer. CYP24 leads to abrogate growth contro mediated by vitamin D. MATERIALS AND METHODS: We examined CYI expression as well as VDR (vitamin D receptor) gene expression in 42 esoph cancer cases using semi-quantitative RT-PCR assay. We induced CYP24 in s esophageal cancer cell lines using 25-hydroxyvitamin D3 [25(OH)D3] and compared cell growth rate, measured using the 3-(4, 5-dimethylthiazol-2-y)-2 diphenyltetrazolium bromide (MTT) assay system. RESULTS: The overall s rate was significantly higher in 25 cases of lower CYP24 expression than 17 higher CYP24 expression ($P < 0.05$); on the other hand, 23 cases of low VDR expression had a poorer prognosis than 19 cases of high VDR expression. M we disclosed that the inverse correlation between CYP24 and VDR expressic significant in esophageal cancer cases ($P < 0.05$). Furthermore, the cell growt evaluated by MTT assay was greatly increased in CYP24-induced and VDR- diminished cells than non-responding cells by 25(OH)D3 activity ($P < 0.01$). CONCLUSIONS: Overexpression of the candidate oncogene CYP24 is inve correlated to vitamin D receptor expression, and may play an important role i determination of the malignant potential of esophageal cancer.

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